1.	Record Nr.	UNISA996673177203316
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	Titolo	Software Architecture : 19th European Conference, ECSA 2025, Limassol, Cyprus, September 15–19, 2025, Proceedings / / edited by Vasilios Andrikopoulos, Cesare Pautasso, Nour Ali, Jacopo Soldani, Xiwei Xu
	Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2026
	ISBN	3-032-02138-3
	Edizione	[1st ed. 2026.]
	Descrizione fisica	1 online resource (572 pages)
	Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 15929
	Altri autori (Persone)	PautassoCesare AliNour SoldaniJacopo XuXiwei
	Disciplina	005.1
	Soggetti	Software engineering Application software Computer networks Software Engineering Computer and Information Systems Applications Computer Communication Networks
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	-- Architectures for MLOps. -- An Approach for Integrated Development of an MLOps Architecture. -- MLOps in Practice: Requirements and a Reference Architecture from Industry. -- HarmonE: A Self-Adaptive Approach to Architecting Sustainable MLOps. -- Large Language Models in Software Architecture. -- Using Incremental LLM Context for Cost Reduction in LLM-Driven IoT Applications. -- Automated Software Architecture Design Recovery from Source Code Using LLMs. -- Exploring Architectural Smells Detection Through LLMs. -- LLMs for Software Architecture Knowledge: A Comparative Analysis among Seven LLMs. -- LLM-based Quality Assessment of Software Architecture Diagrams: A Preliminary Study with Four Open-Source Projects. -- Architectures for Embedded Systems. -- Nanosatellite Flight Software: A Rigorous Software

Architecture Perspective. -- Towards Mixed-Criticality Software Architectures for Centralized HPC Platforms in Software-Defined Vehicles: A Systematic Literature Review. -- Runtime Monitor Synthesis for Automotive Software Architectures. -- Self-Adaptive, Secure and Federated Learning Systems. -- Model-based Proactive Self-Adaptation for Cloud Systems. -- SAFER-D: A Self-Adaptive Security Framework for Distributed Computing Architectures. -- SURE! A Catalog of Uncertainties and RELAXed Requirements for Self-Adaptive Systems. -- Architecting Federated Learning Systems: A Requirement-Driven Approach. -- Microservice Architecture. -- Centrality Change Proneness: an Early Indicator of Microservice Architectural Degradation. -- A Comparative Analysis of Monolith vs Microservices Energy Consumption. -- Data-driven Understanding of Design Decisions in Pattern-based Microservices Architectures. -- Software Architecture Practices, Perspectives and Evolution. -- Architectural Design Decisions and Best Practices for Fast and Efficient CI/CD Pipelines. -- From Lab to Market: Architectural Evolution in Open Source Transition. -- How do Practitioners Perceive the Relevance of Software Architecture Research?. -- Towards Legal Knowledge Transfer Based on Software Architecture. -- Industry papers. -- WebAssembly with Wasi-NN for Edge Machine Learning Inference: Experiences and Lessons Learned. -- Software Architecture for a Robust, Multithreaded, Realtime, Control System used on an Adaptive Racecar. -- Asynchronous Interoperability Description and Authentication: Addressing Challenges in a Webhook-Based Event-Driven Architecture. -- Variant Management Impact on Architectural Maintainability in Embedded Systems – A Case Study. -- AI-Driven Machine Learning Architecture for Scalable Irrigation Detection in Precision Agriculture: A Case Study with CropX.

Sommario/riassunto	This book constitutes the refereed proceedings of the 19th European Conference on Software Architecture, ECSA 2025, held in Limassol, Cyprus, during September 15–19, 2025. The 18 full papers and 9 short papers presented in this volume were carefully reviewed and selected from 80 submissions. They are grouped into the following topics: Architectures for MLOps; Large Language Models in Software Architecture; Architectures for Embedded Systems; Self-Adaptive, Secure and Federated Learning Systems; Microservice Architecture; Software Architecture Practices, Perspectives and Evolution; Industry papers.